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*Via Electronic Mail & US Mail*

May 12, 2006

Ms. Terese VanDonsel  
United States Environmental Protection Agency  
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SR-6J  
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**Subject:     Fields Brook Superfund Site  
                  Detrex Source Control Area - Remedial Design/Remedial Action Work Plan  
                  Fields Brook Action Group Comments**

Dear Ms. VanDonsel:

The Fields Brook Action Group (FBAG) has developed specific comments regarding Detrex's Remedial Design /Remedial Action (RDRA) Work Plan for Resolution of DNAPL Releases (Work Plan). However, the FBAG not only has serious concerns regarding the content of the Work Plan, but Detrex's ability and willingness to implement. More than seven months ago, USEPA directed Detrex to take immediate action to remedy its non-compliance with its original source control obligations under USEPA's 1997 Order. As USEPA stated in its First Five-Year Review Report for the Fields Brook Superfund Site (June 2004), the "purpose of the cleanup at the Detrex operable unit was to address contaminated surface soils, sediment, and DNAPL that had the potential to move into Fields Brook." As of the date of this letter, Detrex has failed to meet its source control obligations and to comply with USEPA's 1997 Order.

The conceptual site model developed by Detrex and its consultant URS during the remedial design of the DNAPL system in 1999 has been shown to be fundamentally flawed and inaccurate. However, in this Work Plan, Detrex continues to base work on that flawed site model. As a result, DNAPL will continue to migrate from the significant source area on the Detrex facility.

The title of the document reflects that actions will be taken to resolve DNAPL releases from the Detrex facility. In reality, the Work Plan only details further investigations that will be undertaken, which inevitably will delay any action to address the immediate problem. During the February 8, 2006 meeting of USEPA, the FBAG and Detrex, it was clear that the DNAPL sources on the Detrex facility remain mobile. In order to protect surrounding areas - including Fields Brook and its floodplains - immediate and aggressive implementation of containment/removal measures must be implemented. Containment/removal measures can and must be implemented prior to conducting additional evaluations and/or studies. The containment measures implemented by Detrex must encompass areas in which

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DNAPL has been observed. These areas include: the DS Tributary on the west side of State Road; the area in the vicinity of the slurry wall where DNAPL was observed during installation; the monitoring wells to the north of Detrex (on RMI property); wells that were installed and abandoned to the northeast of Detrex; the Detrex storm water dam; and the major source area under the Detrex property.

The "proposed" containment trench is located such that any previous migration from the major DNAPL source area will not be contained and will migrate to Fields Brook and surrounding areas. Detrex must fulfill its existing obligations. It has been reported that between 250,000 and 500,000 gallons of DNAPL are located under the Detrex facility. Primary consideration must be given to the risk that such a volume of an uncontrolled contaminant poses to human health and the environment. .

**FBAG Specific Comments:**

- 1) Page 1-1, Paragraph 3 indicates that the plan is designed to "...verify the potential mechanism of transport and stop identified movement of contamination...." As the experts from both USEPA and FBAG have demonstrated, DNAPL migration can occur and is occurring in the pore spaces of the existing soils. Given the widespread outbreaks of DNAPL in multiple directions beyond the so-called "DNAPL plume" area, it already has been determined that a containment system is necessary to control and prevent the further spread of DNAPL to Fields Brook and the floodplain.
- 2) Page 1-1, Paragraph 5 indicates that agreements reached during the March 20, 2006 meeting between USEPA and Detrex have "pre positioned" the interceptor trench south of MW17 and 18 (Figure 2-3). The FBAG believes this location is not appropriate given the nature and extent of the DNAPL present at the Detrex facility and the observations of DNAPL beyond the defined "DNAPL plume". If this has in fact been approved by USEPA, it reflects a determination that DNAPL migration has not reached beyond that area and, further, that the area to the south and southwest of the proposed interceptor trench poses no threat to the Fields Brook remedies or monitoring of Fields Brook. These conclusions are inaccurate – and contradict prior statements by USEPA.
- 3) Page 1-2, 1<sup>st</sup> Bullet indicates that Detrex will "assess site conditions" using GeoProbe technology. Geoprobe are useful for characterizing geologic conditions, but – by themselves - are not useful for assessing the presence of DNAPL. If DNAPL detection is to be assessed, then careful trenching to the lacustrine interface may prove useful. Trenches should be long enough to provide a thorough assessment, and properly developed by picking the sides of the excavations to undo smearing effects, and then thoroughly screening with a VOC monitor sensitive to chlorinated organics.
- 4) Page 1-2, 2nd Bullet indicates that soil gas surveys will be used to support existing data. While soil gas surveys might provide information regarding the extent of DNAPL in the unconsolidated fill (approximately surface to 6 feet below ground surface), the use of this system in lacustrine clays and glacial tills where the DNAPL is moving well below the surface of the saturated zone will only provide limited and localized results which will not be useful – and, in fact, may be misleading.

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- 5) Page 1-2, Section 1.1 discusses the remedial actions that are in place at the Detrex facility and references the 1997 Record of Decision requirements. Further, it states that "The remedial components were installed...." That statement is inaccurate for the following reasons:
  - a. The 1997 ROD required installation of approximately 40 extraction wells. Only 12 have reportedly been installed and Detrex has admitted that only 3 or 4 operate as designed. It should also be noted that the 3 or 4 operating extraction wells have removed approximately 10,000 gallons of DNAPL. This demonstrates that extraction is indeed a viable technology. The radius of influence of each operating extraction well is limited, thus, the need for all the extraction wells, as required in the 1997 Record of Decision.
  - b. The 1997 Record of Decision required that the slurry wall be installed downgradient of the DNAPL source area. During installation of the slurry wall, DNAPL was encountered in the slurry wall trench. The FBAG has seen no documentation that the position of the slurry wall was changed to accommodate this finding.
  - c. The 1997 Record of Decision required that the extraction wells be installed near the leading edge of the DNAPL source area. Due to a flawed and inaccurate site model and a lack of understanding of DNAPL migration characteristics, the extent of the DNAPL source area was incorrectly identified.
- 6) Page 1-2, Section 1.2 indicates that Detrex intends to engage in further gathering and evaluation of data before taking any action. Detrex of course is free to spend its resources gathering all the data that it may want concerning its own source area. Data gathering and reports, however, are no substitute for time-critical response actions. USEPA must require immediate, aggressive and property-wide containment and removal of the DNAPL.
- 7) Page 2-1, Section 2.2, 2<sup>nd</sup> Paragraph indicates that certain data due to unexpected results will not be considered. Data cannot be simply disregarded and areas resampled until results are consistent with predetermined concepts. Further, if data are disregarded in characterizing the problem and designing the solution, the resulting efforts will be flawed and inaccurate.
- 8) Page 2-2, Section 2.2, Last Paragraph indicates that Detrex used selective data evaluation to base its characterization and design decisions. The lack of PID readings in upland borings is not an indicator of the lack of DNAPL. It only suggests that no DNAPL was present at the transition of the overburden and the lacustrine clay at that specific location. USEPA and the FBAG experts have demonstrated that the clay is not a barrier and that DNAPL will flow through the clay in the laminations and sand seams and DNAPL flows in a path of least resistance, resulting in spaghetti-like strands that GeoProbe borings are more likely to miss than to hit.
- 9) Page 2-4, Section 2.3.1.2 indicates that the interceptor/containment trench is for the VOC plume (dissolved phase in groundwater). The interceptor/containment trench should be

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installed to the appropriate depth and placed so to contain any further migration of DNAPL from the Detrex facility. Additionally, there appears to be a typo in the first sentence. What is the objective of the investigation?

- 10) Page 2-4, Section 2.4 indicates that Detrex is going to install a containment/ interceptor trench south of the DNAPL source area. The purpose of the interceptor/containment trench must be to contain migration of DNAPL from the Detrex facility and should, therefore, be positioned outside all known areas of DNAPL present at and around the Detrex facility.
- 11) Page 2-5, Section 2.5 indicates monitoring parameters and locations. There is no quantitative sampling and analysis program. The monitoring plan should at least include chemical analyses for tetrachloroethylene along with other DNAPL components.
- 12) Page 2-6, Section 2.7 suggests that USEPA has already approved this Work Plan or that Detrex is already behind schedule. Instead of two months of supplemental investigations - immediate and aggressive containment should be employed at locations where the primary DNAPL source has been identified.
- 13) Page 2-6, Section 2.8 identifies the long-term measures plan. This plan ignores the basic problem of DNAPL migration. DNAPL does not necessarily flow only in the direction of the ground water gradient. DNAPL flow is more reliant upon the geologic setting. The containment/interceptor trench needs to be located so that containment and removal of mobile DNAPL can occur accordingly.
- 14) Page 3-1, Section 3.1, 2<sup>nd</sup> Paragraph provides historical information. It states, "The location of the slurry wall was selected to be outside of the previously delineated dissolved phase groundwater impacts as well as known presence of DNAPL in the subsurface." It has been reported that DNAPL was encountered in the slurry wall trench during installation of the slurry wall and there is no evidence that the slurry wall was repositioned.
- 15) Page 3-2, Section 3.1, Last Paragraph indicates that the lack of visual observations of DNAPL in the borings west of State Road is the basis for elimination of areas for investigations. Only 1-4 foot core sample was pulled from this area for the sole purpose of determining the overburden/lacustrine clay interface. Since there is DNAPL present in the DS Tributary on the west side of State Road, immediate and aggressive containment/removal should occur. Investigations to further delineate the area can wait until containment has been effected.
- 16) Page 3-2, Section 3.2 focuses on the evaluation of historical data and future OM&M data gathering. Again, this does not accomplish the necessary task of containment/removal.
- 17) Page 3-3, Section 3.3 again, focuses the investigation on previous visual identification of DNAPL - or lack thereof. This flawed process increases the risk of leaving DNAPL outside the DS Tributary.

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- 18) Page 3-3, Section 3.3, 1<sup>st</sup> bullet verifies the presence of DNAPL. USEPA and FBAG agree that the source of the DNAPL is Detrex. Detrex does not offer any technical support as to an alternative position.
- 19) Page 3-3, Section 3.3, 3rd bullet attempts to dispel a DNAPL pathway in areas where the presence of DNAPL has been verified. The simple fact that DNAPL is or has been present confirms that a pathway exists – or existed.
- 20) Page 3-3, Section 3.3, 4<sup>th</sup> bullet – These same verification processes should be added to section 2.3 and should be implemented on the Detrex facility to correct its conceptual site model.
- 21) Page 3-3, Section 3.3, 5<sup>th</sup> Bullet indicates that Detrex/URS will evaluate the current DS Tributary Area remedial system. The original measures specified in the 1997 Record of Decision have never been completed in accordance with regulatory requirements (e.g. slurry wall outside areas of DNAPL, 40+ extraction wells). “Remedial upgrades” should be addressed after or concurrent with the completion of Detrex’s obligations under the existing Record of Decision.
- 22) Page 3-3, Section 3.3, Final paragraph identifies the use of “push technology” for attempting to identify the presence of DNAPL. “Push technology” has limited application in identifying the presence of DNAPL.
- 23) Page 3-4, Section 3.3, Paragraphs 1 and 5 indicates the use of staff gauges and a groundwater monitoring program will be employed. It is difficult to understand how the use of staff gauges and a groundwater monitoring program will provide any useful information as to the presence and containment/removal of DNAPL.
- 24) Page 3-4, 4<sup>th</sup> Paragraph indicates that low flow sampling and bailing will be employed. The data quality objectives need to be specifically described to determine which methodology is appropriate.
- 25) Page 3-5, 1<sup>st</sup> Paragraph references “stable and dynamic conditions at the Site”. These conditions need to be defined for purposes of this plan.
- 26) Page 3-6, Section 3.5 indicates that implementation of the design will not begin until after October 2006. Given that the April 4, 2006 deadline for USEPA approval has passed, it is likely that implementation of containment and removal of the DNAPL will not occur until 2007. USEPA must require immediate and aggressive containment and removal of the DNAPL from the DS Tributary and the Detrex property.
- 27) Page 4-4, 1<sup>st</sup> Paragraph indicates that the original DNAPL impacted area will be used for determination of DNAPL in the wells. If this is the plan, the results will be similar to the original DNAPL design – which was flawed and inaccurate. After implementation of containment and removal activities, new data and evaluations should be used to develop a

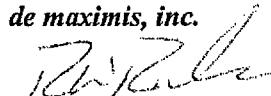
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correct site model for the determination of additional or modified response actions to provide protection to the FWA and SOU areas of Fields Brook.

The FBAG believes that in order to protect Fields Brook from further recontamination, USEPA must require Detrex to fulfill its obligations as stated in the 1997 Record of Decision. Further, USEPA must require Detrex to immediately and aggressively contain and remove the DNAPL located on its property, the DS Tributary and Fields Brook. Primary consideration must be given to the removal and containment of the estimated 250,000 to 500,000 gallons of DNAPL on the Detrex facility.

If you have any questions, please contact me.

Sincerely,  
*de maximis, inc.*



Robert W. Rule  
Alternate. Project Coordinator

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